

No. 18-1076

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IN THE  
**United States Court of Appeals**  
FOR THE FEDERAL CIRCUIT

CONTINENTAL CIRCUITS LLC,

*Plaintiff-Appellant,*

v.

INTEL CORPORATION, IBIDEN U.S.A. CORPORATION,  
IBIDEN COMPANY LIMITED,

*Defendants-Appellees.*

On Appeal from the United States District Court  
for the District of Arizona in No. 2:16-cv-02026-DGC

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**REPLY BRIEF FOR PLAINTIFF-APPELLANT  
CONTINENTAL CIRCUITS LLC**

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**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

**Continental Circuits LLC v. Intel Corporation, et al.**

Case No. **18-1076**

**CERTIFICATE OF INTEREST**

Counsel for the:

(petitioner)  (appellant)  (respondent)  (appellee)  (amicus)  (name of party)

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Continental Circuits LLC	Continental Circuits LLC	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

Please see attached.

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5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. *See* Fed. Cir. R. 47. 4(a)(5) and 47.5(b). (The parties should attach continuation pages as necessary).

None.

6/8/2018

Date

/s/ Jeffrey A. Lamken

Signature of counsel

Jeffrey A. Lamken

Printed name of counsel

Please Note: All questions must be answered

cc: All counsel by ECF

Reset Fields

**CERTIFICATE OF INTEREST**

Appellant Continental Circuits LLC states that the following partners or associates have appeared on their behalf before the trial court or are expected to appear in this court:

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## INTRODUCTION

Defendants nowhere dispute that “the plain and ordinary meaning” of the claim terms at issue—“a surface of a dielectric material,” “removal of a portion of the dielectric material,” and “etching the epoxy”—“does not include” the “repeated desmear process” limitation the district court imposed. Appx0005-0006. It is common ground that those terms do not *themselves* require the recited surfaces to be produced by, or the recited processes to employ, “a specific type of surface roughening—performing a single-pass desmear (which is a multi-step process), and then performing the same multi-step process at least one additional time.” Def. Br. 32. Neither the disputed terms nor the asserted claims in which they appear even require that the “multi-step process” of a “desmear” be *performed*, much less be *repeated* “at least one additional time.”

The claim terms are instead directed to surfaces with particular characteristics—specifically, the inventive teeth. Where the patents seek to impose a specific requirement about how to roughen the surface—*e.g.*, through a repeated “etching”—they do so expressly in dependent claims. Defendants do not deny that those dependent claims would be superfluous if the independent claims already required a repeated-desmear limitation (which necessarily would include repeating the etching sub-step of that process). That creates an “especially strong” “presumption” that the independent claims include no such limitation. *Hill-Rom*

*Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1374 (Fed. Cir. 2014). While defendants argue that *some* of those dependent claims were added after the date of invention, the patent family *always* included claims that would be superfluous under their construction.

Having no basis for their “repeated desmear” limitation in “the actual words of the claims,” Appx0006, defendants offer a claim-construction analysis that ignores the claims. Like the district court, defendants invoke five passages in the specification that, in their view, justify “add[ing] a [repeated-desmear process] limitation to the claims.” *Id.* But not one of those passages effects a “*clear disavowal* of claim scope,” using “words or expressions of *manifest . . . restriction*” of the claims to a repeated desmear—or anything else. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002) (emphasis added).

For example, while defendants assert that several passages distinguish “the present invention” from the single-pass desmear of the “prior art,” those passages by their terms describe only “*one technique*” for forming the invention’s tooth surface structure, within the context of *a preferred embodiment*. They do not manifest an intent to limit the scope of all claims to that one technique. Indeed, the “Summary of the Invention” discloses that the tooth structure may be achieved by “slowed *and/or* repeated etching” on a “non-homogenous” dielectric—it makes no mention of a repeated desmear. And the specification elsewhere describes *other*

innovations as the “present invention”—including the tooth structure itself, without regard to how it is made. The cited passages “cannot overcome the ‘heavy presumption’ that a claim term takes its ordinary meaning.” *Teleflex*, 299 F.3d at 1327.

## ARGUMENT

### **I. THE ASSERTED CLAIMS DO NOT REQUIRE A “REPEATED-DESMEAR PROCESS”**

#### **A. The Plain Language of the Claims All But Precludes a “Repeated-Desmear Process”**

It is undisputed that the “ordinary and customary meaning” of the relevant claim terms, as understood by “a person of ordinary skill in the art,” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc), does not require a “repeated-desmear process.” Br. 31-39. The claim terms defy that gloss. For example, the phrase “surface of a dielectric material” refers to *a physical thing*, not the process by which it is made. *Id.* at 33. “Removal of a portion of the dielectric material” does not specify how the removal is achieved—by etch, full desmear, or another process. *Id.* at 35. And “etching the epoxy” does not require any specific method of etching, much less require that it be within the context of repeating the six-step desmear process. *Id.* Reading those terms in the context of the entire set of claims, moreover, confirms the absence of a repeated-desmear-process limitation. *Id.* at 31-39.

Defendants' brief includes a section entitled "Continental Circuits' Claim Language-Based Arguments Are Meritless." Def. Br. 44-45. But that section nowhere addresses Continental Circuits' arguments based on claim language. The section does not even mention the disputed claim terms. It presents no contrary interpretation of the claims' text.

Defendants assert, in a different section, that "all of the claims require a roughened surface that joins the dielectric and conductive layers." Def. Br. 35; *see id.* at 31-32 ("[e]ach asserted claim contains a limitation . . . that requires roughening the surface of the dielectric"). That assertion answers nothing: Requiring a roughened surface is not the same as dictating that the surface be roughened through a double-desmear process. The assertion is also incorrect. For example, claim 100 of the '582 patent is a device claim containing the "surface of a dielectric" term. Appx0111. The claim requires that the surface have "undercuttings" with certain characteristics. *Id.* It nowhere requires that the "undercuttings" be produced by "roughening"—or any other method. *Id.*; *see* Br. 33-34.

Defendants also urge that Continental Circuits' construction would "encompass" what the patents "criticize and purport to overcome—a single-pass desmear." Def. Br. 46; *see also id.* at 1, 43, 44, 63. That mischaracterizes the specification—nowhere does it define the invention in terms of improving the existing *desmear process*. *See* Br. 57. Rather, the "problem" the patents sought to

overcome is “poor adherence” between the layers of a multi-layer electrical device. Appx0103, 1:50-51. And the “improvement” over the prior art the specification identifies is the physical “surface of the teeth” or “fangs” that “enable one layer to mechanically grip a second layer.” *Id.* at 1:54-60. Continental Circuits’ construction presents no risk of the claims covering the prior art’s fangless (or inadequately toothed) layers.

Ultimately, defendants offer no argument based on “the actual words of the claims,” or to respond to claim language that refutes their effort to read a repeated-desmear limitation into them. Appx0006. That speaks volumes about defendants’ construction.

**B. Claim Differentiation Precludes the Effort To Insert a “Repeated-Desmear Process” into the Asserted Claims**

Claim-differentiation principles likewise all but foreclose defendants’ effort to read a repeated-desmear limitation into the claims. “[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Phillips*, 415 F.3d at 1314-15. The presumption is especially strong where imposing that limitation would render dependent claims “superfluous.” *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006).

That is the case here. Dependent claims of the ’560, ’105, ’582, and ’912 patents require performing at least two “etching” steps. *See* Br. 40-41. That cre-

ates a presumption that a repeated-desmear process—which would require performing two etches in repeating the multi-step desmear process—is not present in the independent claims. *See id.* Another patent in the same family—the ’069 patent—includes a dependent claim reciting a “double desmear process.” U.S. Patent No. 6,700,069, 10:40-41, <http://patft1.uspto.gov/netacgi/nph-Parser?patentnumber=6700069>. Those dependent claims would be superfluous under defendants’ construction. *See* Br. 42-44.

Defendants argue that claim differentiation does not apply because some dependent claims of the asserted patents were “added more than a decade after the supposed invention date.” Def. Br. 46-47 & nn.9-10. Defendants cite *ICU Medical, Inc. v. Alaris Medical Systems, Inc.*, 558 F.3d 1368 (Fed. Cir. 2009), in which this Court rejected a claim-differentiation argument based on dependent claims filed “years after the filing date of the original patents, the issuance of the [asserted] patents, and the introduction of the allegedly infringing . . . products.” *Id.* at 1376. But defendants overlook that the patent family here *always* reflected the same claim differentiation—from the “original patents” back to the original patent application.

For example, defendants cannot dispute that the ultimate parent of the patents-in-suit—the ’870 patent—incorporates a double-desmear process in a dependent claim. *See* Def. Br. 47 n.10. As Continental Circuits explained (at 43-44),

claim 1 requires a step of “forming cavities in the applied dielectric material.” U.S. Patent No. 6,141,870, 9:22, <http://patft1.uspto.gov/netacgi/nph-Parser?patent-number=6141870>. Dependent claim 2 recites one way to form the cavities—by performing all six “sub-steps” of the desmear process “more than on[ce].” *Id.*, 10:4-13.

The same distinction appears in the patent *application’s* original claims at the “1997 priority date,” Def. Br. 46. *See* Br. 49-50; File Wrapper for ’870 patent, Application No. 08/905,619, at 15 (independent claim 19 and dependent claim 21), filed Aug. 4, 1997, <http://outlierdevhq.com/hosted-documents/continental-circuits>. This is thus not a case, like *ICU Medical*, where a later-filed dependent claim was filed to “expand the scope of [the] claims” to cover a competitor’s products. Def. Br. 46; *see* 558 F.3d at 1376. Here, the patent family *always* included independent claims that broadly cover the relevant surfaces—including the tooth-shaped cavities—together with dependent claims dictating how to create them, such as through repeated etching or a repeated-desmear process.<sup>1</sup> Claim-differentiation principles apply—with full force.

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<sup>1</sup> Defendants urge that reliance on the ’870 patent application is a “new argument on appeal that is waived.” Def. Br. 58. But waiver only “preclude[s] a party from adopting *a new claim construction* position on appeal.” *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1346 (Fed. Cir. 2001) (emphasis added). Nothing prevents a party from “supporting its existing claim construction position with new citations” to authority. *Id.*; *see, e.g., Powell v. Home Depot U.S.A., Inc.*,

Defendants urge that the specification and prosecution history “overcome any presumption of claim differentiation.” Def. Br. 45-47. As explained below, defendants’ readings of both are mistaken. They do not support importing a repeated-desmear limitation into the claims even absent claim differentiation. They are doubly insufficient to overcome the “especially strong” presumption against defendants’ construction that claim differentiation adds. *Hill-Rom*, 755 F.3d at 1374.

## II. THE SPECIFICATION DOES NOT REQUIRE READING A “REPEATED-DESMEAR PROCESS” LIMITATION INTO THE CLAIMS

“[I]mporting [a] limitation[] from the written description into the claims” is the “‘cardinal sin’ of claim construction.” *Teleflex*, 299 F.3d at 1324; *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). The district court acknowledged that defendants seek to do that here: They “seek to add a [repeated-desmear process] limitation to the claims” based on isolated passages from the specification. Appx0006.

Each of those passages, however, is found within one preferred embodiment—a process for making the invention’s teeth using Probelec non-homogenous dielectric and Shipley desmear conditioner. *See* Br. 50. The embodiment’s clear purpose is “to teach and enable those of skill in the art to make and use the

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663 F.3d 1221, 1231 (Fed. Cir. 2011) (permitting new citations to intrinsic evidence).

invention and to provide a best mode of doing so.” *Phillips*, 415 F.3d at 1323; *see* Br. 53-54. While the embodiment discloses the results of using a double-desmear in a particular context, it nowhere expresses a “clear and unmistakable” intent to **require** a repeated-desmear process in all contexts covered by the claims. *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012).

The rest of the specification forecloses defendants’ interpretation. *See* Br. 46-50. In particular, the Summary of the Invention—the only section outside the claims that purports to represent the **entire scope** of the patented inventions—discloses that “the best methods for producing the teeth [are] to use non-homogeneous materials” with “**slowed and/or repeated** etching.” Appx0103, 2:25-30 (emphasis added). Defendants spill much ink trying to explain that away. But their arguments are largely circular and ignore the effect of that clear language on proper claim construction.

**A. The Probelec/ShIPLEY Embodiment Does Not Purport To Be Limiting**

1. Defendants’ position (like the district court’s) rests on five excerpts from the Probelec/ShIPLEY embodiment. *See* Br. 52-54. While defendants quote the language and characterize it as “clear and strong,” Def. Br. 33, they identify nothing that “clear[ly] and unmistakabl[y]” purports to supplant the claims’ plain language and impose a repeated-desmear-process limitation. *Thorner*, 669 F.3d at

1367. Nothing in the Probelec/Shiplely embodiment suggests “an intentional disclaimer, or disavowal, of claim scope by the inventor.” *Phillips*, 415 F.3d at 1316.

The cases defendants invoke prove the defect in their argument. For example, defendants cite *SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc.*, 242 F.3d 1337 (Fed. Cir. 2001), as holding that a specification’s “description of the claimed invention” as distinct from a feature of the prior art can restrict the scope of the claims, “even if the claim language could otherwise be read more broadly.” Def. Br. 35. But defendants do not discuss what the case actually says.

In *SciMed*, the specification “discuss[ed] the disadvantages of certain prior art structures.” 242 F.3d at 1342. But that is not what the Court found “most compelling.” *Id.* at 1343. Rather, the specification “expressly” stated that a certain feature was “applicable to ‘all embodiments of the present invention.’” *Id.* at 1344. Based on *that* statement, the Court found it “difficult to imagine how the patents could have been clearer in making the point that [the feature] was a necessary element of every variant of the claimed invention.” *Id.* This case is the opposite. The Probelec/Shiplely embodiment on which defendants rely has *no* clear and unequivocal language requiring a repeated-desmear process in conjunction with “every variant of the claimed invention.” *SciMed*, like defendants’ other cases, is entirely distinguishable.

2. Moreover, the Probelec/Shiplely disclosure makes clear that it is, as the district court stated, “a preferred embodiment, an illustration.” Appx0017. It is introduced with the qualifier that the “double desmear process” disclosed is “[o]ne *technique* for forming the [invention’s] teeth.” Appx0105, 5:40-44 (emphasis added). The specification does not say that it is the *only* technique that satisfies the claims. *See* Br. 51. Defendants insist that qualifying the embodiment with the phrase “one technique” (of many possible techniques) “cannot recapture disclaimed subject matter.” Def. Br. 56. But that is circular. The question is not whether clearly disclaimed subject matter can be “recaptured.” It is whether the language defendants invoke is intended to be a disclaimer, or merely to describe one way to achieve the invention. The fact that the patentees described a repeated desmear in the Probelec/Shiplely embodiment as “one technique” for creating the invention’s tooth structure indicates it is the latter.<sup>2</sup>

3. Finally, the specification *expressly states* that the Probelec/Shiplely embodiment should *not* be construed as limiting the claims’ scope: “While a particular embodiment of the present invention has been disclosed, . . . *[t]here is no intention . . . to limit the invention* to the exact disclosure presented herein as a

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<sup>2</sup> Defendants invoke the district court’s statement that the reference to “one technique” is outweighed by a “subsequent, detailed explanation [that] makes clear that the patented invention is different from the single desmear process.” Def. Br. 55 (quoting Appx0014). Continental Circuits explained why that is wrong in its opening brief (at 50-59, 62-64), and addresses the issue further below (at 12-23).

teaching of one embodiment.” Appx0107, 9:18-25 (emphasis added); *see* Br. 52. Defendants dismiss that as “empty boilerplate” with “no bearing on the proper construction of the claims.” Def. Br. 57. But this Court has given such language weight in construing claim scope. *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1345 (Fed. Cir. 2001). Defendants also invoke three non-precedential decisions for the proposition that (supposedly) boilerplate language “cannot be used *to expand* the scope of the claims.” Def. Br. 57-58 (emphasis added). But that is backwards. Continental Circuits is not seeking to “expand” claims beyond their ordinary meaning. *Defendants* are seeking to *restrict* the claims, in defiance of their ordinary meaning. Defendants offer no logical reason why an unequivocal statement that the embodiment should not limit the scope of the claims should be disregarded when determining whether the inventors intended the embodiment to limit the scope of the claims.

**B. The Probelec/Shipleigh Embodiment’s References to the “Present Invention” Do Not Limit the Claims to a Repeated-Desmear Process—And the Summary Defies That Limit**

Defendants urge that, “[b]y describing ‘the present invention’ as a repeated desmear” in the Probelec/Shipleigh embodiment, “the patents ‘limit[] the scope of the invention’ to those representations.” Def. Br. 36. Many of defendants’ arguments and counter-arguments hinge on that same premise. *See* Def. Br. 41, 44, 47, 49, 53, 55-57, 61, 64. But their “present invention” argument lacks merit.

1. Defendants (at 36-37) invoke the proposition that, “[w]hen a patentee describes the features of the ‘present invention’ as a whole, he alerts the reader that this description limits the scope of the invention.” *Pacing Techs., LLC v. Garmin Int’l, Inc.*, 778 F.3d 1021, 1025 (Fed. Cir. 2015) (internal quotation marks omitted); *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1308 (Fed. Cir. 2007). But defendants can identify no place where the specification purports to describe the “present invention *as a whole*” as requiring a repeated-desmear process. Each instance defendants cite appears in the context of a particular embodiment—and the uses there plainly do not describe the patents’ bounds as a whole. Br. 50-55.

As defendants’ authorities recognize, patentees typically describe the invention “as a whole” in a portion of the specification that *purports* to summarize the entire invention. Thus, in *Pacing Technologies*, the Court relied on the description of the “present invention” “[i]n a section entitled ‘Summary and Objects of the Invention.’” 778 F.3d at 1025. In *Verizon*, the Court focused on the “‘Disclosure of the Invention’ section.” 503 F.3d at 1308. And in *Astrazeneca AB, Aktiebolaget Hassle, KBI-E, Inc. v. Mutual Pharmaceutical Co.*, 384 F.3d 1333 (Fed. Cir. 2004) (cited Def. Br. 33-34), the Court looked to the “general summary” in the section of the specification titled “Description of the Invention.” *Id.* at 1339-40.

Here, the *only* place the specification describes the invention *as a whole* is the section entitled “SUMMARY OF THE INVENTION.” Appx0103, 1:48-2:29; *see* Br. 56-57. That section explains that the invention is a “*unique surface structure* . . . for joining the dielectric material to the . . . conductive layer” of a multilayer electrical device. Appx0103, 1:50-54 (emphasis added). It explains that the “improvement” over the prior art is its “surface of the teeth,” *id.*, 1:58-60, which “enable[s] one layer to mechanically grip a second layer,” *id.*, 1:54-57. That defies the notion that the invention “as a whole” is limited to a particular process for producing it.

Only the last of the summary’s six paragraphs mentions process. It states that “the best methods for producing the teeth [are] to use non-homogeneous materials” with “slowed and/or repeated etching.” Appx0103, 2:25-30. The Summary of the Invention thus does not even mention desmears, much less their repetition. *See* Br. 65-57. That belies any argument that the inventors intended to define the invention “as a whole” in terms of a repeated-desmear process.

2. Consistent with the Summary of the Invention, the specification contains numerous references to “the present invention” having nothing to do with a repeated-desmear process. *See* Br. 57-58 (quoting Appx0103, 1:13-15, 1:15-18, 1:18-24; Appx0104, 3:32-35, 4:19-20; Appx0105, 6:29-35). And it likewise discloses an embodiment detailing the characteristics of the “desirable tooth struc-

ture” that is the heart of the invention. Appx0104, 3:9-10. That embodiment describes a stand-alone, physical invention, without regard to *how* the teeth are formed. *See* Br. 47.

Defendants counter that “descriptions of *one aspect* of an alleged invention do not negate separate statements demonstrating that the patentee circumscribed the invention in other ways.” Def. Br. 37. That misses the point. The fact that the specification separately describes distinct things as “the present invention” simply means that it discloses several inventions. Even if producing the claimed teeth through a repeated-desmear process is identified as *one* of those “present invention[s],” that phrase was not intended to define the scope of the claims “as a whole.” *Pacing Techs.*, 778 F.3d at 1025.

Indeed, the patents qualify the disclosure of a repeated desmear as “[o]ne technique for forming the teeth.” Appx0105, 5:40-41. It is simply one innovative way in which the “repeated etching” referenced in the Summary of the Invention, Appx0103, 2:25-30, and *claimed* in the relevant *dependent claims*, *see* pp. 5-7, *supra*; Br. 40-41, can be performed. As this Court has recognized, “where the patent includes a long list of different ‘objects of the present invention’ that correspond to features positively recited in one or more claims, it seems unlikely that the inventor intended for each claim to be limited to all of the many objects of the invention.” *Pacing Techs.*, 778 F.3d at 1025.

This Court thus has explained that “use of the phrase ‘present invention’ . . . is not always . . . limiting.” *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1136-37 (Fed. Cir. 2011). Scattered references to the “present invention” in the Probelec/Shiplely embodiment do not, under any fair reading of the patents, purport to impose a repeated-desmear limitation on all claims here.

**C. The Probelec/Shiplely Embodiment’s References to the Prior Art Do Not Disavow Claim Scope**

Defendants claim that, “[b]y criticizing, distinguishing, and claiming to improve upon single-pass desmear processes” in the Probelec/Shiplely embodiment, the specification “disclaimed single desmear processes in favor of a repeated desmear process.” Def. Br. 33. But the invention is not an improvement of the desmear process; it is an improvement on adherence through the use of “teeth.” And “[m]ere criticism of a particular embodiment encompassed in the plain meaning of a claim term is not sufficient to rise to the level of clear disavowal.” *Thorner*, 669 F.3d at 1366; *see, e.g., Spine Sols., Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1315 (Fed. Cir. 2010).

1. This Court’s decision in *Gemstar-TV Guide International, Inc. v. ITC*, 383 F.3d 1352 (Fed. Cir. 2004), is instructive. The patent there concerned “interactive program guides in digital cable television set-top boxes.” *Id.* at 1357. And the asserted claim recited a “visual identification” limitation for the user to select a program. *Id.* at 1364. The ITC had construed “visual identification” as limited to

an “innovative cursor described in the written description.” *Id.* The specification had criticized prior-art cursors repeatedly, calling them “misleading,” “obscure,” and “befuddling.” *Id.* at 1365. The specification contrasted that prior-art cursor with the disclosed “innovative cursor,” which solved those problems. *Id.*

This Court reversed the ITC’s claim construction, holding that it was improper to construe “visual identification” as coextensive with the innovative cursor. 383 F.3d at 1366. The Court explained that, by contrasting the innovative cursor with the prior-art cursor in a single embodiment, the specification “merely convey[ed] the advantages” of the innovative cursor “over prior art conventional cursors in the preferred embodiment.” *Id.* It did not disclaim all other cursors. *Id.*

That reasoning applies here. Continental Circuits’ opening brief addresses the five passages defendants invoke—each of which is found in the Probelec/Shiplely disclosure. That *embodiment* discloses a “‘double desmear process,’ rather than the single desmear process of the known prior art.” Appx0105, 5:59-63. But, as in *Gemstar*, “[p]roperly read in this context, the statement[s] merely convey[] the advantages of” a double-desmear process “over [the] prior art conventional” single-pass desmear so as to provide the claimed teeth “[i]n the context of the . . . embodiment.” 383 F.3d at 1366 (emphasis added); see Br. 54. The passages simply disclose that, while the “manufacturer’s specifications” for these particular Probelec and Shiplely products call for the known single-pass

desmear in ordinary usage, a double-desmear will create the invention's teeth in that non-homogenous dielectric. Appx0105, 5:59-63. The district court acknowledged as much, stating that the passages provide "an explanation of why [Probelec] can be used with the patented product—by repeating the desmear process for which [Probelec] was designed." Appx0013-14.<sup>3</sup> Thus, the purpose of the embodiment was "to teach and enable those of skill in the art to make and use the invention and to provide a best mode for doing so" using certain commercially available products. *Phillips*, 415 F.3d at 1323. It did not purport to redefine the scope of the claims.

Continental Circuits pointed all that out in its opening brief. Br. 54-55 (citing *Gemstar*). But defendants do not discuss *Gemstar* at all. Nor do they attempt to prove this case factually similar to *any* case in which a court found a disavowal based on criticism of prior art. Indeed, defendants' only response is to assert that associating those statements with the Probelec/Shipleigh embodiment they describe "cannot be reconciled with the repeated statements distinguishing a single-pass desmear as *insufficient* to obtain the desired roughening." Def. Br. 56. That is, again, no response at all. *Every* purported criticism of the prior-art, single-pass desmear was made in the context of that embodiment. The suggestion that a

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<sup>3</sup> Defendants' case for disavowal here is even weaker than the argument rejected in *Gemstar*. There, the specification stated that the "innovative" feature identified as an improvement over the prior art was "required." 383 F.3d at 1365. The specification here nowhere says a double desmear is "required."

standard desmear method would not produce the requisite teeth when used with the Probelec and Shipley materials does not express an intent to require a double-desmear process in all contexts.

2. Defendants further urge that “the patents describe only one way to achieve the desired adhesion—a repeated desmear process,” which is distinguished from the “single-pass desmear process.” Def. Br. 35. That is factually incorrect. The specification discloses *other* ways of producing the toothed surface structure. *See* pp. 20-23, *supra*. But the argument also fails on its terms. The enablement requirement may be satisfied by a single embodiment in the specification—a patentee need not disclose every possible way to achieve the invention. *See Phillips*, 415 F.3d at 1323. And the law is clear that, even where the specification “describes only one embodiment,” that does not mean the “claim terms are limited to the embodiment disclosed.” *Teleflex*, 299 F.3d at 1326-27; *Gemstar*, 383 F.3d at 1366. This Court has repeatedly refused to limit the scope of claims to a single disclosed embodiment. *See, e.g., Absolute Software*, 659 F.3d at 1136-37; *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331-32 (Fed. Cir. 2004).

**D. The Specification’s Disclosure of Processes Other Than a Repeated Desmear Forecloses Defendants’ Arguments**

Finally, the specification expressly discloses methods of producing the claimed teeth that do *not* require a repeated desmear. The fact that defendants must spend six pages trying to explain away those disclosures (at 48-53) is

impossible to reconcile with their assertion that the specification provides a “clear and unmistakable” disclaimer of those other methods. *Thorner*, 669 F.3d at 1367.

1. The Summary of the Invention discloses that the “best methods for producing the teeth” involve using dielectric material with “a non-homogenous composition.” Appx0103, 2:24-29. A “non-homogenous composition,” it states, will exhibit “an uneven chemical resistance, such that *slowed and/or repeated etching* will form [the] teeth.” *Id.*, 2:24-29 (emphasis added). “Etching” is just one sub-step utilized in the six-step desmear “process.” Appx0106, 8:45-67; *see* Br. 48-49. Thus, “slowed” etching does not require a “repeated desmear.” Nor does “repeated etching.” *Id.* The specification’s disclosure of “best methods” of producing the teeth that do not involve a repeated desmear refutes the notion that there is “an intentional disclaimer” of all methods other than a repeated desmear. *Phillips*, 415 F.3d at 1316.

Defendants respond that the specification does not sufficiently elaborate on “slowed” or “repeated etching,” thus “leaving persons of skill to guess what the patent might have meant” by those references. Def. Br. 48. But the relevant question is whether the *fact* that the specification discloses methods—indeed, “best methods”—*other than* a repeated-desmear process is inconsistent with a “clear and unmistakable” intent to require a repeated-desmear process. *Thorner*, 669 F.3d at 1367. It plainly is.

This Court’s decision in *ScriptPro LLC v. Innovation Associates, Inc.*, 833 F.3d 1336 (Fed. Cir. 2016), makes that clear. In *ScriptPro*, the Court held that the claims extended to sorting containers based on all the categories mentioned in the specification (“by patient, prescription, *or other predetermined storage scheme*”) even though the disclosed embodiments used only one (“patient-identifying information”). *Id.* at 1341. A “specification’s focus on one particular embodiment or purpose cannot limit the described invention where that specification expressly contemplates other embodiments or purposes.” *Id.*

Defendants urge that the specification “fails to indicate what a ‘repeated etching’ embodiment would entail if not the repeated desmear embodiment.” Def. Br. 52. Not so. Defendants’ own expert explained that a skilled artisan would understand “‘etching’ . . . to refer to the roughening process of a dielectric layer.” Appx2041. Etching can be performed by “physical means, such as by blasting grit across a surface, or by chemical means, in which a chemical interacts with the surface.” Appx2032. And defendants acknowledged that a skilled artisan would understand that “etching” is *distinct* from the *desmear process*—etching is one “sub-step[.]” of a larger six-step process that “involve[s] swell, etch, and neutralization steps (each separated by a rinsing step).” Appx2033-2034. That contradicts defendants’ suggestion that a skilled artisan would understand the specification’s dis-

closure of “repeated etching” to require repeating all steps of the full desmear process.

2. Defendants also argue that extrinsic evidence suggests “a person of ordinary skill in the art would not read the word ‘slowed’” here “to mean that the patents embrace single-pass desmearing.” Def. Br. 50 (quoting Appx0014-0015); *see id.* at 51. That is misdirection. Continental Circuits never suggested that the “slowed” etching disclosure must be understood as equivalent to a single-pass desmear. The point is that “slowed” etching—a disclosed means of achieving the teeth—does not require a desmear process at all, much less a repeated one. *See* Br. 63. That further refutes the notion that the specification intended to limit every claim to a repeated-desmear process.

Defendants’ real argument appears to be that the disclosures of “slow” and “repeated” etching are not enabled or have insufficient written-description support. *See* Def. Br. 48-53. But that fails three times over. First, defendants offer no reason why a skilled artisan would not understand how to “repeat” a commonplace “etching” without performing all the steps of a desmear process twice. Second, the law is clear that validity and claim construction are separate inquiries. This Court has “not endorsed a regime in which validity analysis is a regular component of claim construction.” *Phillips*, 415 F.3d at 1327. Thus, “arguments about insufficient specification support for the claims if they are given their plain meaning”

should not “alter [the Court’s] conclusion about claim construction.” *Straight Path IP Grp., Inc. v. Sipnet EU S.R.O.*, 806 F.3d 1356, 1363 (Fed. Cir. 2015). That is why courts routinely do claim construction first, and address validity in light of the claims as construed. *See, e.g., AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1242-43 (Fed. Cir. 2003). Third, there is no requirement that the patent enable *every* conceivable mode of making the claimed invention. One is often sufficient. *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1361 (Fed. Cir. 1998). The fact that the specification contemplates different methods that do not use a repeated desmear belies defendants’ contention that a repeated desmear must be read into the claims.

\* \* \*

Defendants’ position seems to reduce to this: There is a clear and unmistakable disclaimer requiring a “double-desmear process” in all claims—as long as the Court ignores the claims’ text (which does not require a repeated-desmear process); claim-differentiation principles (which defy a repeated-desmear requirement); the express language of the disclosure (which clarifies that a double desmear is merely “one technique”); the context of the disclosure (limited to a single embodiment); the specification’s disclaimer of any intent to limit the claims to that one embodiment; and the Summary of Invention’s disclosure of methods for

producing the claimed teeth other than a double desmear (“slowed and/or repeated etching”). That is not how this Court construes claims.

### **III. THE PROSECUTION HISTORY AND EXTRINSIC EVIDENCE DO NOT SUPPORT IMPORTING A REPEATED-DESMEAR LIMITATION INTO THE CLAIMS**

The district court acknowledged that the prosecution history is “not sufficient on its own to find disavowal.” Appx0012. And it conceded that defendants’ “extrinsic evidence” is “not reliable enough to be dispositive.” Appx0013. Nothing in defendants’ brief changes that. To the contrary, the prosecution history and extrinsic evidence suggest the absence of a disavowal.

#### **A. Far From Limiting the Claims, the Prosecution History Confirms Their Breadth**

The district court cited a declaration by Continental Circuits’ expert, Professor Wong, entered to respond to an Office action during prosecution of the ’560 patent. *See* Appx0012. Professor Wong stated that “performing two separate swell and etch steps is *a technique* which forms the teeth.” *Id.* (emphasis added). As explained (Br. 59-60), referring to a repeated desmear as “*a technique*” for forming the invention’s teeth—one of many, not “*the technique*” or “*the only technique*”—is the opposite of the “clear and unmistakable” disavowal required “for prosecution disclaimer.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1325 (Fed. Cir. 2013).

Defendants insist that the statement is a disclaimer because it responded to an indefiniteness rejection for failure to describe the subject-matter the inventors regard as “the invention.” Def. Br. 40. That misreads the record. The examiner rejected the claims because she needed clarification about the relationship between non-homogeneity and the formation of teeth. The examiner explained that “the recitations ‘delivered with solid content’ and ‘etching of the epoxy uses non-homogeneity with the solid content’ are unclear and confusing. It is not clear as to what is meant by a dielectric material being delivered with solid content and it is also unclear as to how epoxy uses non-homogeneity with the solid content.” Appx2123. Although the examiner phrased that as indefiniteness, the accompanying explanation shows that the examiner simply did not understand how etching could use non-homogeneities to create teeth. Professor Wong’s declaration confirms that. It does not purport to define “the invention”; it explains how “a technique” employing non-homogenous Probelec dielectric can be “used to form teeth.” Appx2074. That is no disclaimer.

2. The prosecution history makes clear that the invention does not require a particular process to form the teeth. Br. 60-61. The inventors represented that “there *is no requirement for any process* for forming cavities in the independent claim 19 (Group I) or any of claims 20, 22, 24, or 25 (Group II): *chemical, physical, etching, or whatever.*” Appx2510 (emphasis added). Defendants claim

it is “improper” to credit that representation because it refers to different claims in a non-asserted patent. Def. Br. 59. But prior prosecution histories are irrelevant only if they concern distinctive claim language not at issue in the asserted patents. *See Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1184 (Fed. Cir. 2006). Here, the original and asserted claims are closely related. Thus, “statements in the familial application are relevant in construing the claims at issue.” *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007).

Defendants urge that “parties cannot undo statements in a patent that narrow the claimed invention by resorting to broadening statements during prosecution.” Def. Br. 59. But the inventors were not trying to “undo” anything—they were simply reaffirming the claims’ plain language. The cases defendants cite, by contrast, all involve efforts to add supplemental embodiments through prosecution, *Clare v. Chrysler Grp. LLC*, 819 F.3d 1323, 1332 (Fed. Cir. 2016), contradict the clear import of the specification, *Honeywell Int’l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1319 (Fed. Cir. 2006), or broaden the scope of the claims, *Telcordia Techs., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365, 1375 (Fed. Cir. 2010). None of those situations is present here.

#### **B. Extrinsic Evidence Does Not Support Disavowal**

The district court also invoked two private documents the inventors wrote while developing a new product called PhotoLink. Appx0012-0013. In one

document, the inventors explained that each “photolink run” uses “a double-pass desmear to achieve the tooth structure.” Appx3322-3324. In the other, they discussed the peel strength of two batches of PhotoLink circuit boards. They noted that, with respect to those batches, “a two pass desmear cycle doubles the peel strength of a one pass desmear cycle” while “varying the times in the cycles do[es] not seem to have that great an effect.” Appx3831.

Defendants argue that those documents “demonstrate that the inventors understood their invention as limited to a repeated desmear process.” Def. Br. 40. But Continental Circuits explained (at 61-62) why that is not so—the documents merely reflect that the inventors were putting their preferred embodiment into practice, not purporting to define the bounds of their invention (to the PTO or anyone else). *See Absolute Software*, 659 F.3d at 1136-37. Had the inventors understood their invention as limited to the “double-pass desmear” or “two pass desmear” mentioned in the documents, they would have used that language in the asserted claims. That they did not speaks volumes. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996) (extrinsic evidence “may not be used to vary or contradict the claim language”).

#### **IV. ANY DISAVOWAL WOULD HAVE LIMITED SCOPE AND EFFECT**

Even if this Court were to find a disavowal—and it should not—it would be far more limited than the district court supposed. Br. 62-65. It would exclude only

teeth formed using the specific, six-step single-desmear process *of the prior art*; it would not exclude departures from the prior-art process. It would be limited, moreover, to process claims.

Defendants urge that Continental Circuits forfeited “this new construction” by not presenting it below. Def. Br. 60. But Continental Circuits raised the issue. In the claim-construction hearing, its counsel represented that he “d[id]n’t actually have a problem” with the court instructing the jury that the claims had to be construed as “broader than a reasonable desmear”—*i.e.*, that they differed from the single-pass desmear of the prior art. Appx4102. That is the same as saying that, to the extent the court found a disclaimer, it would be limited to the prior-art desmear. Second, there can be no waiver because Continental Circuits is not “adopting a new claim construction position.” *Interactive*, 256 F.3d at 1346. Continental Circuits’ construction is the same. It merely urges that, if this Court rejects that construction, the scope of rejection must fit the underlying rationale. *See Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1274 (Fed. Cir. 2012).

**A. Any Disavowal Would Be Limited to a *Prior-Art* Single Desmear**

The district court read the Probelec/Shipleigh embodiment as “mak[ing] clear that the invention” excludes “the prior art’s single desmear process.” Appx0010. But the construction it imposed did not merely *exclude* “the prior art’s single de-

smear process.” It instead *required* a “*repeated* desmear process.” As explained previously (Br. 63-64), those are very different things. Even if this Court were to credit the district court’s “disavowal of the prior art” theory, the resulting claim construction would be limited to the scope of that supposed disavowal.

Defendants’ primary response is to recycle their argument that the inventors “did not merely disavow the prior art,” but instead “repeatedly stated that ‘the present invention’ requires a repeated desmear process.” Def. Br. 61. As explained in the opening brief (at 55-59) and above (at 12-23), the specification does no such thing; any disclaimer is limited to the *prior-art* desmear process. Defendants cannot salvage that argument by contending that, in Continental Circuits’ view, the disclaimer of the prior-art single-pass desmear would allow the claims to encompass “any single-pass desmear process in which the etching sub-step exceeds the ‘6-10 minute[.]’ etching sub-step referenced in the specification.” Def. Br. 62. The prior art, defendants assert, encompasses a “broader range of known desmear processes” than the one specified in the disclosure in connection “with the preferred Probelec XB 7081 dielectric.” *Id.*

That again misses the point. Defendants’ entire disavowal theory is based on representations made within the Probelec/Shiplely embodiment. *See* pp. 8-12, *supra*. Thus, any disavowal must be limited to the features that embodiment describes as “the common desmear process.” Appx0106, 8:45-60. “[E]ven in the

case of an unequivocal disavowal of claim scope, the court must construe the claim congruent with the scope of the surrender.” *Cordis Corp. v. Medtronic AVE, Inc.*, 511 F.3d 1157, 1177 (Fed. Cir. 2008) (citations omitted), *order supplemented*, 275 F. App’x 966 (Fed. Cir. 2008); *see also 3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1373 (Fed. Cir. 2003).

### **B. No Disavowal Can Be Imported into Non-Process Claims**

The district court also improperly imported a repeated-desmear *process* limitation into claims that recite physical *devices*. Br. 64. Defendants respond with their “present invention” argument—they urge that “the patentees’ description of ‘the present invention’ as requiring a repeated desmear process is not limited to any particular claims but applies to the alleged invention as a whole.” Def. Br. 64. That rests on the false assumption addressed above—that the “present invention” language purports to describe the “invention as a whole.” It does not. The only language describing the “whole” invention defies the limitation defendants seek to impose. *See* Br. 55-59; pp. 12-16, *supra*.

Finally, defendants urge that a repeated-desmear limitation can be read into the “device” claims because they “are, in fact, product-by-process claims.” Def. Br. 65. But the “processes” defendants identify are often unrelated to the “process” they invoke as requiring a repeated-desmear limitation—removing dielectric material to form cavities for the teeth. *See id.* at 66 & n.18. For example, the only

“process” in claim 100 of the ’582 patent is that the conductive layer must be “built up so as to fill undercuttings with respect to a surface of a dielectric material.” Appx0111, 18:49-60. The court’s repeated-desmear limitation has nothing to do with *building up* the conductive layer. Likewise, claim 109 of the ’582 patent refers to a “means for joining the conductive layer to the dielectric material.” Appx0112. A repeated desmear is not a means for joining layers. Similar arguments apply to claims 94, 95, and 122 of the ’582 patent. The repeated-desmear limitation cannot be read into claims that nowhere address the process for removing dielectric material.

### CONCLUSION

The district court’s judgment should be reversed.

June 8, 2018

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I certify that today, June 8, 2018, I electronically filed the foregoing Reply Brief for Plaintiff-Appellant Continental Circuits LLC with the Clerk of the Court for the U.S. Court of Appeals for the Federal Circuit using the appellate CM/ECF system. All participants in the case are registered CM/ECF users and will be served by the appellate CM/ECF system.

June 8, 2018

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